



## Cement

### TS100 - Natural Pozzolan TEST REPORT

Analysis by: Lafarge Seattle  
Sample from : Kamloops Grinding Plant  
Average Analysis: Septmeber 2022  
Test Report Number 10-22 Natural Pozzolan

#### Chemical Analysis

		Limits
Silicon Dioxide (SiO <sub>2</sub> )	60.1 %	
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	16.0 %	
Iron Oxide (Fe <sub>2</sub> O <sub>3</sub> )	6.4 %	
Total (SiO <sub>2</sub> ) + (Al <sub>2</sub> O <sub>3</sub> ) + (Fe <sub>2</sub> O <sub>3</sub> )	82.5 %	70% Min - ASTM
Sulphur Trioxide (SO <sub>3</sub> )	0.0 %	4% Max - ASTM
Calcium Oxide (CaO)	4.5 %	
Magnesium Oxide	2.3 %	
Moisture Content	0.94 %	3% Max - ASTM
Loss on Ignition	5.90 %	10% Max
Available Alkalies as Equivalent Na <sub>2</sub> O	0.58 %	1.5% Max
Total Alkalies as Equivalent Na <sub>2</sub> O	3.44 %	

#### Physical Analysis

Fineness Retained on 45 um (No. 325 Sieve)	8.1 %	34% Max - ASTM
Strength Activity Index with Portland Cement		
% of Control at 7 Days	82 %	75% Min - ASTM
% of Control at 28 Days ( <i>previous month's result</i> )	85 %	75% Min - ASTM
Water Requirement, Percent of Control	103 %	115% Max- ASTM
Autoclave Expansion	0.01 %	0.8% Max - ASTM
Density	2.54 g/cm <sup>3</sup>	

#### Uniformity Requirements

Density, Variation from Average	1.00 %	5% Max - ASTM
Fineness 45um Sieve, Variation from Average	2.30 %	5% Max - ASTM

We hereby certify that the composite natural pozzolan sample above meets the chemical and physical requirements of CAN/CSA A3001 for Type N and ASTM C-618 Class N.

Certified : Robert S. Shogren

#### WESTERN REGION

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